

IN THE CLAIMS

The pending claims are as follows:

1. (Previously Presented) A tilt control device for controlling a radial tilt of a recording surface of an optical disc with respect to an optical recording/reproducing beam, said tilt control device comprising:

5           control means for generating two focus controlling outputs; and

                  actuating means for controlling a focusing state and the radial tilt of the optical recording/reproducing beam based on said two focus controlling outputs, characterized in that said control  
10 means determines a radial tilt value based on a differentiation of focus control values obtained at different radii of said optical disk.

2. (Previously Presented) The device as claimed in claim 1, characterized in that said actuating means comprises a split focus coil arrangement for providing focus and tilt adjustment, and said control means supplies said two focus controlling outputs to  
5   respective coils of said split focus coil arrangement.

3. (Previously Presented) The device as claimed in claim 1, characterized in that said focus controlling outputs are Proportional Integral Derivative (PID) controller outputs.

4. (Previously Presented) The device as claimed in claim 1,  
characterized in that said control means positions a sledge at at  
least two different radial positions, controls said actuating means  
to adjust the focus, and measures said focus control values at said  
5 at least two different radial positions.

5. (Previously Presented) The device as claimed in claim 1,  
characterized in that  
said control means calculates a mean disc tilt value in a tilt  
register.

6. (Previously Presented) The device as claimed in claim 1,  
characterized in that  
said control means generates said focus controlling outputs based  
on measured mean focus control values and corresponding radial  
5 steps between two measurements.

7. (Previously Presented) The device as claimed in claim 5,  
characterized in that said mean disc tilt value is obtained based  
on the following equation:

$$r_{\beta} = \frac{G_c c_f \Delta r_f}{c_f (a_1 + a_2) \Delta R}$$

5 where  $\Delta r_f$  is the difference between two averaged focus control  
values measured at initialization,  $\Delta R$  is a sledge step in radial  
direction between two measurements,  $G_c$  is the factor between

actuator tilt and disc tilt for which comatic aberrations are optimal corrected,  $c_f$  is a spring constant acting against a focusing movement,  $c_t$  is a spring constant acting against a tilt movement,  $a_1$  is a distance of a first coil of said split coil arrangement with respect to a symmetry line, and  $a_2$  is a distance of a second coil of said split coil arrangement with respect to said symmetry line.

8. (Previously Presented) The device as claimed in claim 1, wherein said device further comprises a tilt table for storing an information indicating mean disc tilt values and corresponding radial positions.

9. (Previously Presented) An optical disc player comprising a tilt control device as claimed in claim 1.

10. (Previously Presented) A tilt control method for controlling a radial tilt of a recording surface of an optical disc with respect to an optical recording/reproducing beam, said tilt control method comprising the steps of:

5           generating a focus controlling output and a tilt controlling output; and

              controlling a focusing state of the optical recording/reproducing beam and the radial tilt based on said focus and tilt controlling outputs,

10           characterized in that said method further comprises the step of:

determining a radial tilt value based on a differentiation of focus control values obtained at different radii of said optical disk.

11. (Previously Presented) The method as claimed in claim 10, characterized in that said controlling said focusing state step comprises using a split coil arrangement arranged to provide a focus adjustment, said focus and tilt controlling outputs being  
5 supplied to respective coils of said split coil arrangement.

12. (Previously Presented) The method as claimed in claim 10, characterized in that said focus controlling step comprises using a mean focus controlling output for tilt control.

13. (Cancelled).